

Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections in view of the remarks below.

### REMARKS

The present invention is patentable over the cited references for the following reasons.

Claim 20 in the amended form filed on January 21, 2003 defines the feature of the present invention, as follows:

A semiconductor device provided with:

a resin member of a predetermined thickness, said resin member being made of a seal resin;

a semiconductor element sealed inside said resin member, having a back surface exposed at a top surface of said resin member, and having an active surface facing downward;

metal interconnections formed directly on the bottom surface of the resin member; and

connection terminals extending downward from the active surface of the semiconductor element and having bottom ends connected to top surfaces of said metal interconnections.

Therefore, in the semiconductor device of the present invention metal interconnections are formed **directly** on the bottom surface (i.e. the free surface) of a resin member made of a seal resin which seals a semiconductor element inside thereof.

This feature advantageously enables a semiconductor device having a reduced thickness to be provided without requiring the use of a wiring substrate or a leadframe that were required by the conventional semiconductor device.

The exclusion of a wiring substrate or a leadframe advantageously enables a semiconductor device to be simplified in structure so as to be produced with an improved efficiency and reduced cost.

In contrast, Takeda et al. (USP 5,892,271) discloses a semiconductor device using a flexible substrate 4 (i.e. a wiring substrate) having metal interconnections formed thereon and a semiconductor element mounted thereon.

Therefore, as discussed in the response to the previous Office Action, Takeda et al. does not provide any suggestion about the present inventive feature that metal interconnections formed directly on the bottom surface of a resin member made of a seal resin.

Ohuchi et al. (USP 5,999,413) newly cited in the current Office Action discloses a semiconductor device including a leadframe 30 having a lead 24 with a semiconductor element 21 mounted thereon and the lead 24 and the semiconductor element 21 are sealed in a seal resin 26. Note that the lead 24 is sealed inside the seal resin 26 except for the connection portion 24b.

Therefore, Ohuchi et al. is also quite silent about the present inventive feature that metal connections are formed directly on the bottom surface of a resin member made of a seal resin.

Both Takeda et al. and Ohuchi et al. fail to suggest the most important feature of the present invention that metal interconnections are formed directly on the bottom surface of a resin member made of a seal resin.

It should be also noted that there is no suggestion about exclusion of a wiring substrate or a leadframe to provide a semiconductor device with a reduced thickness.

Thus, Takeda et al. and Ohuchi et al., even in a combined form, cannot provide any suggestion that leads to the present invention.

Hotta et al. (USP 6,023,096) only discloses a semiconductor device having a seal resin containing a filler, in which the semiconductor device includes a wiring substrate.

Therefore, Hotta et al. even if combined with the above two references cannot provide any suggestion that leads to the present invention.

Consequently, the present invention is not made obvious by the combined disclosures of the cited references but is patentable thereover.

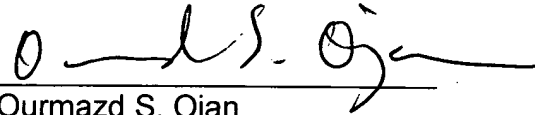
Accordingly, the present invention defined by claim 20 in the amended form is not obvious from, but is patentable over the combined disclosures of the cited references.

Claims 21, 22, 27 and the new claim 39 are also patentable over the cited references because these claims are dependent directly or indirectly from claim 20 and have all of the features of claim 20, which is patentable over the cited references.

Therefore, the applicant respectfully submits that the present application is in condition for allowance and a notice to that effect is earnestly solicited.

If in the Examiner's opinion that is not the case, the Applicant asks that the Examiner kindly contact the undersigned by telephone in an effort to resolve any outstanding issues as expeditiously as possible.

Respectfully submitted,



Ourmazd S. Ojan

Reg. No. 38,065

Paul & Paul

2900 Two Thousand Market Street

Philadelphia, PA 19103

(215) 568-4900

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